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RECORD OF ORAL HEARING

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte HYUNG-BOK LEE and BYOUNG-HYUN

Appeal 2009-005219
Application 10/728,850
Technology Center 2800

Oral Hearing Held: October 6, 2009

Before JOHN C. MARTIN, JOSEPH F. RUGGIERO, and ROBERT E. NAPPI, *Administrative Patent Judges*.

ON BEHALF OF THE APPELLANTS:

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The above-entitled matter came on for hearing on Tuesday, October 6, 2009, commencing at 1:50 p.m., at The U.S. Patent and Trademark Office, 600 Dulany Street, Alexandria, Virginia, before Jon Hundley, Notary Public.

PROCEEDINGS

THE USHER: Calendar number 10, Appeal number 2009-005219.

Mr. Parker.

JUDGE MARTIN: Good afternoon, Mr. Parker.

MR. PARKER: Good afternoon.

JUDGE MARTIN: You may proceed whenever you're ready.

MR. PARKER: Okay. Our Applicant's invention is a pouch-type battery unit which has a first and second battery cells and a safety circuit board disposed in an external void within the battery unit. The external void is defined as being between the first and second battery cells, and the Examiner has applied the patent to Nortoft in rejecting all the claims. We determined that the Nortoft reference doesn't disclose an external void within the battery unit and it doesn't disclose that the safety circuit board is disposed in the external void within the battery unit, which is claimed in Claim 1.

Claim 6 is drawn to Figures 5-A and 5-B and calls for a case comprising a case body having a plurality of spaces, and in each space is -- are the cells and it has a case cover folded so that the spaces are stacked on top of each other, and Claim 6 also calls for the safety circuit board disposed in an external void defined by folding the case cover.

Claim 10 is similar and it's drawn to Figure 6 having a case and a case body and a cover, the case body being attached to the cover, the case body comprising a plurality of spaces and it says the case body has a flanged portion that mates with the cover. The safety device is disposed between the two separate sections of the flanged portion.

1 Claim 17 is similar to Claim 10, except that it's -- Claim 17 says that
2 the safety device is disposed in such a way as not to add to the size of the
3 battery unit. In Nortoft the safety circuit board is sandwiched between the
4 two cells, two packages that contain the cells, and so that's not an external
5 void. The external void --

6 JUDGE NAPPI: Counselor, I'm looking at Figure 1-B, which
7 apparently -- Figure 1-B and Figure 2-B which the Examiner cited.

8 MR. PARKER: Of Nortoft?

9 JUDGE NAPPI: Of Nortoft, yeah. And just looking at those battery
10 cells, it looks like towards the edge -- I'm looking at Figure 1-B, towards the
11 edge where you have item 4, the cell kind of comes to a pinched point, and
12 so when you stack those two cells together, you have a space between the
13 two pinched points.

14 When you come over to Figure 2-B, you can see that the circuit board
15 extends out into the area between those two pinched points. Why isn't that a
16 circuit board that's disposed into a external void?

17 MR. PARKER: No, not by what it is determined it's to mean by
18 disposed. "Disposes" means where it's placed. It's placed between --

19 JUDGE NAPPI: So if it is placed between those two, it's in that area.

20 MR. PARKER: It's between the two, right.

21 JUDGE NAPPI: It's also in the area between those two pinched
22 portions. Why is that wrong? Your claim doesn't say the entire circuit
23 board is disposed in the external void.

24 MR. PARKER: No, it doesn't, but we've defined the external void as
25 being between the two battery cells.

1 JUDGE NAPPI: Okay, so the -- that pinched portion I'm talking
2 about that's kind of the tip on the end of each of the battery cell packets -- do
3 you see that in Figure 1?

4 MR. PARKER: Right. Figure 1 shows -- right.

5 JUDGE NAPPI: There's a little pointy part on the one side?

6 MR. PARKER: The little -- right, right.

7 JUDGE NAPPI: And then in Figure 2-B that pointy part -- you've
8 kind of rotated the battery pack by Figure 2-B.

9 MR. PARKER: Right.

10 JUDGE NAPPI: But again, we have that pointy part, we have the two
11 cells sitting above each other in between those two pointy parts. They show
12 part of the circuit board sticking through there.

13 MR. PARKER: Right.

14 JUDGE NAPPI: So why doesn't that meet the limitation of a circuit
15 board disposed in a external void?

16 MR. PARKER: Well, we took as -- "disposed" to mean within the
17 void itself and the whole circuit board, not just the edge of the circuit board.

18 JUDGE NAPPI: Is there another difference between -- are you
19 asserting there's another difference between -- was it Nortoft, and
20 your claim --

21 MR. PARKER: When you get to Claim 2 it calls for a case cover
22 coupled to the case by the cell of the battery contained within the case body.
23 Nortoft doesn't have a case cover in any of its figures.

24 JUDGE NAPPI: What does Nortoft use?

25 MR. PARKER: He has a flexible material that's just laid out in a
26 sheet, and then he just folds the material over the battery.

1 JUDGE NAPPI: Does that cover the battery?

2 MR. PARKER: And it -- well, it covers the battery, but the -- it's
3 not -- it doesn't -- it's not a body covered by a cover. In other words, when
4 he folds the sheets it becomes a case body, but there's no cover covering the
5 case body.

6 JUDGE MARTIN: Why can't you call the bottom -- the bottom side
7 the case body and the top side the case cover? I mean, what structure's
8 implied --

9 MR. PARKER: Because the case body has to have a space to
10 accommodate the battery.

11 JUDGE MARTIN: Does it have to have a space --

12 MR. PARKER: There's no space --

13 JUDGE MARTIN: -- the space have to exist before the battery is
14 applied?

15 MR. PARKER: Right, right.

16 JUDGE MARTIN: And where does that --

17 MR. PARKER: If you just lay out a flat sheet --

18 JUDGE MARTIN: Where is that determined in the claim?

19 MR. PARKER: If you just lay out a flat sheet of paper on the desk,
20 there's no space defined in that body, if that's what you're going to call the
21 body, is that flat sheet of paper.

22 JUDGE NAPPI: You mean a space as an area, or a space as just
23 an -- because clearly the space -- your hand's on a space right now, when
24 you had your hand on the piece of paper.

25 MR. PARKER: Right, but --

1 JUDGE MARTIN: Well, my concern is that the claim is not a method
2 claim requiring inserting a battery into a space in a case body. It looks to me
3 like you can read that language on the finished product, and when you do,
4 the battery occupies a space. Maybe it's got -- it occupies a space in both the
5 bottom and the top, but it seems like you could call the bottom the case body
6 and the top the case cover.

7 MR. PARKER: Okay. So the -- in Claim 6 we have the safety circuit
8 board disposed in an external void defined by folding the case cover, the
9 safety circuit board being connected to each of the terminals of the battery
10 unit, so there's no external void in Nortoft defined by folding the case cover.

11 JUDGE MARTIN: I have a question about -- another claim
12 interpretation question. Going back to Claim 1 for a --

13 MR. PARKER: Okay.

14 JUDGE MARTIN: The idea of when you have a void and when you
15 don't. The claim is an apparatus claim, so it's not saying that we're inserting
16 something into a void. We're looking at the final product and we're -- and
17 the claim calls for a safety circuit board disposed in an external void. If the
18 safety circuit board had been big enough to entirely fill the void, would the
19 claim read on it?

20 MR. PARKER: It doesn't entirely fill it, if you look at Figure 3-B.

21 JUDGE MARTIN: No, I'm saying if it did entirely fill it.

22 MR. PARKER: Oh, if it did?

23 JUDGE MARTIN: Yeah.

24 MR. PARKER: Well, sure, it would still fill the void. I mean, there's
25 still a void.

1 JUDGE MARTIN: Even though there is no more void left? I mean,
2 the void's occupied, so it's not a void anymore.

3 MR. PARKER: Well, there's --

4 JUDGE MARTIN: That's my question.

5 MR. PARKER: There's a void in the cover.

6 JUDGE MARTIN: All right.

7 MR. PARKER: It may be filled with something, but it's still there.

8 JUDGE NAPPI: And what's --

9 MR. PARKER: The void doesn't disappear, it's just filled.

10 JUDGE MARTIN: Now the claim doesn't require that the void exist
11 after the two battery cells are brought into contact, I don't believe. I mean,
12 seems like --

13 MR. PARKER: No, not --

14 JUDGE MARTIN: -- if the claim is broad enough, you could hold the
15 batteries apart a little bit, and you would have a void, and then you could put
16 a printed circuit board between them and make a sandwich.

17 MR. PARKER: And that's what Nortoft does.

18 JUDGE MARTIN: Right.

19 MR. PARKER: But that's an internal void, to me.

20 JUDGE MARTIN: External to what, is the question.

21 MR. PARKER: It's internal to the --

22 JUDGE MARTIN: Certainly it's external within the battery unit,
23 according to the claim --

24 MR. PARKER: Right.

25 JUDGE MARTIN: -- so I'm just trying to figure out what that means,
26 within an -- okay, so the battery unit is the combination of the two battery

1 cells, right? And each battery cell has a battery body and a case, so we have
2 an external void within the said battery unit. It seems like that's broad
3 enough to read on a space between two separated battery cells.

4 JUDGE NAPPI: Well, the later limitation actually says that the
5 external void is being between two secondary battery cells.

6 JUDGE MARTIN: Right, and then you put a printed circuit board
7 between them. You're saying the void's still there, it's just occupied by a
8 printed circuit board. It sounds an awful lot like the reference.

9 MR. PARKER: Well, we read more on the external void than what
10 you all are reading on it.

11 JUDGE MARTIN: Well, I'm just asking, you know, how broad this
12 is?

13 MR. PARKER: Right. To me it was disposed to the -- you know, any
14 void that's disposed to the outside of the battery unit would be an external
15 void, so when you sandwich it --

16 JUDGE MARTIN: Yeah.

17 JUDGE NAPPI: Yeah, but once you fill it --

18 MR. PARKER: It's still a void.

19 JUDGE NAPPI: Well, then --

20 MR. PARKER: It's just a full void.

21 JUDGE NAPPI: If that's the case --

22 MR. PARKER: It's just a filled --

23 JUDGE NAPPI: -- if -- the batteries -- as Judge Martin said, we have
24 two batteries that are separated by some distance, you have a void between
25 them, right?

26 MR. PARKER: Right.

1 JUDGE NAPPI: Okay. So you take Figure 1-B of Nortoft, you have
2 a very large void between those two batteries.

3 MR. PARKER: Right.

4 JUDGE NAPPI: We have the -- letter number 1 sitting in the middle
5 of that void.

6 MR. PARKER: Right.

7 JUDGE NAPPI: We put a circuit board in there.

8 MR. PARKER: Right.

9 JUDGE NAPPI: We've just filled an external void.

10 MR. PARKER: And the whole package is a battery unit, but it's not
11 an external void, it's an internal void.

12 JUDGE MARTIN: I guess the problem I'm having is that the claim
13 doesn't say external to what, it just says external void within the battery unit,
14 which is, you know, a volume that includes both of the battery cells. I'm
15 sorry, there's no question there.

16 JUDGE NAPPI: I had another question for you directed to claim
17 interpretation. I'm looking at Claim 5.

18 MR. PARKER: Okay.

19 JUDGE NAPPI: And you have a limitation there directed to the
20 helically wound positive and negative electrode plates.

21 MR. PARKER: Right.

22 JUDGE NAPPI: And I understand from looking at your Figure 2 that
23 that's what you're trying to get at.

24 MR. PARKER: Great.

25 JUDGE NAPPI: Figure 2 doesn't look like what I'm used to thinking
26 of as a helix, so I'm trying to reconcile that. I'm also trying to reconcile that

1 with what I see in Nortoft, who describes that lithium batteries can be
2 formed by flattened jelly rolls -- I kind of love that, calling it jelly rolls, of
3 interleaved electrodes. You know, and I read that description of flattened
4 jelly rolls and I look at your Figure 2, and Figure 2 looks like it could be
5 flattened jelly roll.

6 MR. PARKER: Well, helically wound means that the -- that you have
7 the two layers, the two electrodes on top of each other and it's just wound.

8 JUDGE NAPPI: They're just wound up? And how would that be
9 different than "this can be formed by flattened jelly rolls of interleaved
10 electrodes"? The jelly roll kind of implies that they're rolled around each
11 other.

12 MR. PARKER: Okay. Well, I didn't see that in Nortoft, but --

13 JUDGE NAPPI: I'm sorry, I should have given you a cite. It's
14 column 1, about line 10, 11, about line 12 or 13, talking about just basic
15 background of the art on how they make lithium ion batteries. The sentence
16 says, "Lithium ion batteries can be formed by flattened "jelly rolls" of
17 interleaved electrodes and electrolyte, thus forming electrical cell being
18 packaged in a flexible pack formed of a thin laminate rolled material." And
19 he goes on to talk about how you don't have to put them in rigid canisters.

20 MR. PARKER: Right, but it's a 102 rejection and he doesn't say the
21 background is his -- uses his invention.

22 JUDGE NAPPI: No, he says those are the batteries that I use in my
23 invention, at least that's what I got out of it. He was saying this is what's
24 typically known as batteries, and then now I'm taking those batteries and
25 putting them together in this packaging arrangement.

1 MR. PARKER: When he discusses Figure 1 he says he has a pair of
2 flat electrochemical cells one and one prime in column 3, the bottom of the
3 page.

4 JUDGE NAPPI: So you're just saying helical means that the sheets
5 are rolled around each other.

6 MR. PARKER: Right. Okay, what about Claim 6? We
7 have -- where we -- we define the external void by folding the case cover,
8 and that's not shown in Nortoft.

9 JUDGE NAPPI: What has the Examiner cited Nortoft as --

10 MR. PARKER: He refers to Flap 14 in Figure 6, I believe it was,
11 yeah, in combination with another figure, which -- there are two separate
12 embodiments in Nortoft and he's combining two separate embodiments in a
13 102 rejection. But the Flaps 14 aren't part of the case -- aren't the case cover
14 like you all described a while ago.

15 So if you take one side of the package and say it's the body, on the
16 other side of the package and say it's the cover, Flap 14 extends past the
17 battery unit and extends over the terminals towards the safety device, safety
18 circuit board. We claim a case cover extending from one side of the case
19 body encoupled with the case body to seal all the plurality of spaces, which
20 is shown in our Figures 5-A and 5-B.

21 So we have a case 51, a case body 52 having the plurality of spaces 53
22 and 54 and a case cover 57 covering -- extending from the side of the case
23 body encoupled to the case body to seal all the plurality of spaces. And then
24 further down when that case cover is folded, it forms an external void in
25 which the safety circuit board is disposed. It's just showing it.

1 And then we have a similar feature in Claim 10. The safety device is
2 electrically connected to the terminals of the battery bodies, said case body
3 having flanged portions that mate with the case cover. The safety device is
4 being disposed in between two separate sections of the flanged portion when
5 the case is folded into itself, so each of the plurality of bodies are stacked on
6 top of one another.

7 And Claim 17 is similar to Claim 10, only it requires that the safety
8 circuit board be disposed in a way such as not to add to the size of the
9 battery unit. In Nortoft since the safety circuit is disposed between the cells,
10 the battery unit becomes thicker, which changes its size.

11 That's all I have for those three claims.

12 JUDGE MARTIN: No further questions?

13 JUDGE NAPPI: No further questions.

14 JUDGE MARTIN: No further questions. Thank you, Mr. Parker.

15 MR. PARKER: Thank you.

16 (Whereupon, at 2:13 p.m., the proceedings were concluded.)